

REMARKS

Claims 1-3, 5-26 and 42 are amended. Claim 4 is cancelled. New claims 43-44 are added. Claims 1-3, 5-27 and 42-44 are pending in the application. Claims 10-12, 16, 18-19, 21-23 and 26-27 are withdrawn from consideration. Claims 1-3, 5-9, 13-15, 17, 20, 24-25 and 42-44 are currently under consideration.

Claim 42 stands rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement. The Examiner indicates that the claim 42 recited component having no single element present at an amount exceeding 95% by weight is not supported by the specification. Applicant disagrees and requests reconsideration.

As indicated in applicant's previous response, such claim is supported by the specification at, for example, paragraphs 13, 14, 39, 64 and 78. Referring to paragraphs 13-14 such indicate that a solid solution can comprise a majority element which is present in greater abundance than any other element and can also be present as less than 50% of a material. A solution having a majority element present at less than 50% necessarily has no single element present at an amount exceeding 95%. Such disclosure further describes, for example, a binary alloy containing M and Q, where M and Q are present at atomically equivalent values. Referring next to paragraph 39, the disclosure indicates compositions having solid phases throughout all possible ranges of described mixture of elements M and Q. Such clearly encompasses embodiments where no single element is present at an amount exceeding 95%. Similarly, paragraph 64 indicates an M-based alloy where no single element equals or exceeds the value of M where the content of additional elements can be in a range from 0.001% to 50%. This disclosure additionally clearly encompasses the claim 42 recited component having no single element present at an

amount exceeding 95%. Paragraph 78 additionally indicates, for example, M-based materials where Q can range from 0.001% to 50% thus necessarily encompassing the claim 42 recited material.

Claim 42 is further supported by the specification at paragraph 52 which specifically indicates that the invention encompasses mixed metals which do not comprise a majority of any single element. This paragraph and the above discussed paragraphs, along with the additional context of the entire specification clearly convey to one skilled in the art that the inventor had possession of the invention recited in claim 42 at the time the application was filed. Accordingly, applicant respectfully requests withdrawal of the § 112, first paragraph, rejection of claim 42 in the Examiner's next action.

Claims 1-7, 9, 13, 14, 17, 20 and 24-25 stand rejected under 35 U.S.C. § 103(b) as being anticipated by Schussler, U.S. Patent No. 3,592,639. The Examiner is reminded by direction to MPEP § 2131 that anticipation requires each and every element of a claim to be disclosed in a single prior art reference. Claims 1-7, 9, 13, 14, 17, 20 and 24-25 are allowable over Schussler for at least the reason that Schussler fails to disclose each and every element in any of those claims.

As amended, independent claim 1 recites a sputtering target configured for mounting within a physical vapor deposition apparatus. The amendment to claim 1 incorporates the subject matter of former dependent claim 4 which is appropriately cancelled. The amendment is further supported by the specification at, for example, paragraphs 28-31 and 79 and Fig. 1. Schussler does not disclose a sputtering target configured for mounting within a physical vapor deposition apparatus. Accordingly, claim 1 is not anticipated by Schussler and is allowable over this reference. It is additionally noted

that Schussler does not disclose, describe, or in any way suggest any methodology for producing a sputtering target or achieving the sputtering target recited in claim 1 which has a sputtering surface with at least 99 atomic% of the sputtering surface consisting of a single phase solid solution. Accordingly, independent claim 1 is clearly allowable over Schussler.

Claims 2-6, 9, 13, 14, 17, 20, 24 and 25 (and claim 42) are amended to properly depend from independent claim 1. Dependent claims 2-7, 9, 13, 14, 17, 20 and 24-25 are allowable over Schussler for at least the reason that they depend from allowable base claim 1.

Claim 8 stands rejected under 35 U.S.C. § 102(b) as being anticipated by Dohjo, U.S. Patent No. 5,170,244. The Examiner indicates at page 6 of the present Action that claim 8 is anticipated because Dohjo teaches specific examples of tantalum films containing molybdenum. Without admission as to the propriety of the Examiner's rejection, claim 8 is amended to exclude binary solutions of Ta and Mo. The amendment to claim 8 is further supported by the specification at, for example, Fig. 1 and the text at pages 53-56. Accordingly, claim 8 is not anticipated by Dohjo and is allowable over this reference.

Claims 8 and 15 stand rejected under 35 U.S.C. § 102(b) as being anticipated by, or in the alternative under 35 U.S.C. § 103(a) as being obvious over, Schussler. The Examiner is reminded by direction to MPEP § 2143 that a proper obviousness rejection has the following three requirements: 1) there must be some suggestion or motivation to modify or combine reference teachings; 2) there must be a reasonable expectation of success; and 3) the combined references must teach or suggest all of the claim limitations. Claims 8 and 15 are allowable over Schussler for at least the reason that Schussler for at least the

reason that Schussler fails to disclose or suggest each and every element in either of those claims.

As amended, independent claim 8 recites a thin film over a semiconductive wafer deposited from a sputtering target of claim 1. Schussler does not disclose or suggest a thin film over a semiconductive wafer. Accordingly, claim 8 is not anticipated by, or rendered obvious by Schussler and is allowable over this reference.

Independent claim 15 recites a thin film sputter deposited from a sputtering target having a sputtering surface consisting of a single phase solid solution of two or more elements where such elements are selected only from group V of the periodic table. As indicated by the Examiner at page 5 of the present Action, Schussler teaches single phase tantalum based alloys containing tungsten. However, such tantalum and tungsten comprising does not disclose or suggest the claim 15 recited thin film from a target having a solid solution single phase from two or more elements selected only from group V. Accordingly, independent claim 15 is not anticipated or rendered obvious by Schussler and is allowable over this reference.

New claims 43 and 44 do not add "new matter" to the application since each is fully supported by the specification as originally filed. Claims 43 and 44 are supported by the specification at, for example, paragraph 38, paragraph 50, paragraph 56, paragraph 68, paragraphs 75-76 and paragraph 78. New claims 43 and 44 are within the elected species.

For the reasons discussed above, claims 1-3, 5-9, 13-15, 17, 20, 24-25 and 42 are allowable, and claims 43 and 44 are believed allowable. Accordingly, applicant respectfully requests formal allowance of such claims in the Examiner's next action.

Respectfully submitted,

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